Comments for Notice of Inquiry regarding Carrier Current Systems, including Broadband over Power Line Systems.

This is a response to the Federal Communication Commission's Notice of Inquiry (ET Docket No.03-104) released on April 28, 2003, regarding all aspects of the implementation of the Broadband over Power Line (BPL) systems.

Aura Communications Inc. is privately held company whose research and development activities concentrate on wireless magnetic field applications. Owing to our experience with low frequency RF systems in a worldwide regulatory framework, we anticipate that future widespread use of BPL systems may significantly impact existing radio services. This impact will be most severe in the frequency bands below 30 MHz, where our wireless inductive applications operate. Therefore, we bring to the attention of the Commission the following information:

International experience

1. Attempts to introduce new regulations for broadband BPL (or Power Line Carrier, PLC) into the European Union have created unusual controversy and widespread opposition from all existing radio users of the frequencies below 30 MHz. So far, only Germany has adopted any new BPL regulation (NB 30). However, the German NB30 emission limits for BPL systems are at least 20 dB lower than existing FCC limits for frequencies below 30 MHz.

2. Last year, the European Commission issued Mandate 313 to develop an interference standard for a variety of cable networks including cable TV, DSL and PLC. This mandate was given to a joint working group composed of members from ETSI and CENELEC. In parallel, the CEPT/ECC Working Group SE approved for publication a Compatibility Study between cable networks and existing radio services for the frequencies below 30 MHz. The document was result of the nearly 4 years of research work by experts. The CEPT/ECC study is entitled “Report on PLT, DSL, cable communications (including cable TV), LANs and their effect on radio services.” It concludes that even the severe German emission limits **do not** adequately protect existing radio services, including the primary users of the band.

3. Owing to this strong evidence of potential interference from BPL systems, Japan has decided to withhold deployment of BPL technology.

Wireless BPL

Although worldwide standardization efforts are dedicated to wireline BPL systems only, the FCC Inquiry raises the possibility for wireless version of the BPL system architecture, using the building wiring as a distributed antenna. The interference impact of such wireless BPL applications has not been investigated, and must be carefully considered. A conservative methodology would suggest delaying consideration of wireless BPL until the issues relating to the wireline version have been fully addressed.

Measurement procedures

The measurement procedures for radiated emissions from BPL systems are not defined. A consensus on the appropriate measurement procedures must be reached before emission limits can be established. This sequence will allow all interested parties to evaluate and compare test data from experimental installations of the BPL systems with a reasonable level of confidence.

The measurement procedures for the unintentional emissions from telecommunications ports according to CISPR 22 could be suitable, and can produce repeatable results when proper termination s are used in the simulating network. Adoption of consensus methods should allow the gathering of reliable and significant field data from Access and In-home installations, as a necessary precursor to the setting of regulatory emission limits.

Recommendations

1. The Commission is urged to initiate a thorough investigation of the potential environmental effects of implementing wireline BPL systems, similar to that done for UWB system;

2. The Commission should seriously consider coordinating its BPL efforts with the ETSI/CENELEC Joint Working Group (JWG), for the future development of regulatory requirements for BPL. This collaboration will hasten the availability of sound, universal standards which will in turn benefit US manufacturers of BPL systems and the public.

Respectfully,

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